

Alaska Department of Environmental Conservation

Division of Spill Prevention and Response

Industry Preparedness Program

**Trans Alaska Pipeline System (TAPS) Pipeline**

**Oil Discharge Prevention and Contingency Plan**

**Strategic Reconfiguration Amendment**

**Final Findings Document**

**December 31, 2003**

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## **INTRODUCTION**

### **What is this Document?**

This document presents the final findings of the Alaska Department of Environmental Conservation (Department) concerning the contents of the Trans Alaska Pipeline System (TAPS) Pipeline Oil Discharge Prevention and Contingency Plan (Cplan) Strategic Reconfiguration (SR) Amendment dated June 30, 2003 with additional information and edits submitted August 7, October 31, and November 7, 2003. The SR Amendment addresses activities related to prevention, containment, and cleanup of oil discharges from current and planned future operational modifications to the TAPS Pipeline that stem from Alyeska Pipeline Service Company's (APSC's) SR project.

These findings were written as a result of an extensive review of the SR Amendment and consideration of public comment. They are presented to assist the interested public and participating reviewers in understanding the analysis of priority issues through which the Department reached its decision to conditionally approve the SR Amendment to the TAPS Pipeline Cplan.

This document also contains the Department's response to written comments received during the public comment period. The public comment period began on August 20, 2003 and was extended on November 17, 2003 through December 8, 2003 for review of additional information. The Department has considered all comments received by the deadline. This document does not respond to all of the individual comments, but rather it is a response to the most substantive issues raised by plan review participants. Individuals that may desire to understand the Department's review of a particular comment not mentioned here may request further information by contacting the Department at 411 West 4<sup>th</sup> Avenue, Suite 2, Anchorage, Alaska 99501 or by calling (907) 257-1374.

### **What Has Been the Process to Approve the SR Amendment?**

In late 2002 APSC informed the Department that a complex project to reconfigure the major equipment used to pump crude oil through the TAPS pipeline was being developed. In March 2003, APSC informed the Department that obtaining approval of a modified cplan would be a crucial factor for obtaining authorization from the pipeline owner companies to move forward with the project. The Department frequently reviews and approves plans for facilities not yet in operation, and it was determined that although providing an approval for an amendment based on future TAPS Pipeline modifications and operational changes would be unusual for TAPS, it would be in keeping with the Department's authority and standard approval practices for proposed operations.

Department plan amendment review procedures are provided in 18 AAC 75.415 and 18 AAC 75.455. 18 AAC 75.415 describes the review process for routine plan updates, and 18 AAC 75.455 outlines Department review procedures for new plans, plan renewals and non-routine plan amendments. Because APSC envisioned significant changes to the structure of oil spill

response operations for the TAPS pipeline, the Department determined that review procedures found in 18 AAC 75.455 would be followed once the SR Amendment Application was received. Finally, APSC requested a schedule by which the Department could approve a proposed plan by November 2003. The Department provided a preliminary schedule to APSC indicating that an approval decision could be made in that timeframe if a complete SR Amendment Application was submitted by July 1, 2003.

Initially, the Department found the July 1, 2003 SR Amendment insufficient for review based on APSC's acknowledgement that some of the information contained in the amendment was either not accurate or not yet complete. APSC subsequently revised the application and on August 7, 2003 the Department found it sufficient for review. APSC distributed both hard and electronic copies the plan amendment to communities, government agencies, and stakeholder organizations designated as review participants by the Department, as well as to regional libraries in Fairbanks, Glennallen, Kenny Lake, Valdez and Anchorage. Although not required to do so by the Department, APSC posted an electronic version of the amendment on the company website, [www.Alyeska-pipe.com](http://www.Alyeska-pipe.com). The Department initiated a 30-day public comment period on August 20, 2003.

Based on several requests for additional information from the public and on the Department's coordinated review with the agencies of the Joint Pipeline Office, it was determined that additional information was needed. On September 30, 2003 the Department issued a Request for Additional Information (RAFI) to APSC, and on October 31, 2003 APSC submitted a written response to the Department's RAFI and edits to the plan amendment. Following submission of additional clarifications on November 7, 2003, the Department found the modified amendment and RAFI response sufficient for public review, and the public review period was re-started on November 17, 2003. Thirteen days were added to the eight remaining from the initial public review period to allow three weeks for the public to review the responses to the RAFI and provide final comments on the plan amendment. Again, the revised plan amendment and RAFI response were distributed by APSC and posted on the company website. Eleven organizations or individuals submitted additional comments to the Department by the deadline.

When requested to do so during the public review period, the Department met with stakeholders to review their concerns. Meetings were requested by and held with Ahtna, Inc. and the Prince William Sound Regional Citizens' Advisory Council (PWS RCAC). Also, the Department participated in a workshop led by the Joint Pipeline Office (JPO) in which agency reviewers, Alyeska staff, and public stakeholders that had submitted requests for additional information were invited to identify concerns and discuss plans for spill response under the new pipeline configuration.

After extensive review of the plan amendment and consideration of the public comments, the Department found that the plan met the criteria for plan approval with conditions as specified in Alaska law. The law provides that the Department may attach reasonable terms and conditions to its approval to ensure that the applicant has access to sufficient resources to protect environmentally sensitive areas and to contain, clean up and mitigate potential oil discharges from the facility. Under this authority, the SR Amendment has been approved with several conditions.

Although the Department is responsible for conducting the review of this contingency plan amendment, many of the analyses in this document utilize the combined efforts of the participating agencies of the Joint Pipeline Office (JPO), a consortium of 13 state and federal agencies. In addition to the involvement of the JPO's Oil Spill Preparedness, Prevention and Response Team, the Department utilized the expertise of JPO's technical staff for certain issues.

It is important to note that while the Department is the State agency with authority to approve the TAPS Pipeline Cplan, the federal Bureau of Land Management (BLM) has separate authorities and approval criteria provided in the TAPS Grant of Right-of-Way Agreement. Unlike the Department, which reviews and approves the TAPS Pipeline Cplan every five years, the BLM approves the TAPS Pipeline Cplan annually. The BLM annual and SR Amendment review has been conducted concurrently with the review described in this Findings Document and it has been coordinated with the Department. Because the agencies have different authorities and review criteria, the approvals for the SR Amendment will not necessarily reflect all of the same issues or conditions of approval. While one agency's requirements may be more extensive than the other, the two approvals are complimentary rather than conflicting.

#### **What Does it Mean When a Contingency Plan or Amendment is Approved with Conditions?**

A plan is approved when a plan holder has demonstrated in the plan that a level of prevention and readiness has been accomplished to prevent a spill, or if a spill should occur, to effectively respond. The Department does not make its decision to approve a plan based on the operator proving everything in the plan, but rather upon the reasonableness of assertions and evidence that certain essential resources and practices are secured. Therefore, the Department's work does not end once the contingency plan is approved. The contingency plan approval is only a portion, although a major one, of the entire program of spill prevention and response. Many follow-up field tasks are done to proof the plan and assure that persons assigned response and prevention duties are trained and ready to respond if need be. The tasks range from both planned and unannounced inspections and oil spill exercises, regular surveillance of field operations, training audits, third party engineering inspections for checking structural integrity of tanks and piping and applying lessons learned from actual incident responses. In some cases the plan holder is not required to fully document how they will implement oil spill prevention and response requirements in the contingency plan. Nonetheless, the plan holder is required to fully implement all oil spill prevention and response programs required by State statute and regulation even if those programs are not documented in the approved contingency plan.

In this case, the TAPS Pipeline Cplan was approved on November 29, 2001. On June 30, 2003 the approval was extended until November 30, 2006 as required by Senate Bill 74. Two conditions of approval from November 29, 2001 required additional public review to be in full compliance with regulatory requirements. Both of those conditions were fulfilled prior to the beginning of the public comment period on the SR Amendment.

Approved Cplans may be modified through an amendment application process such as the one followed for the SR Amendment. The same approval procedures are followed, and the same

guidelines and standards are utilized for approving plan amendments. When a Cplan is approved with conditions, or as in this case, when a Cplan amendment is approved with conditions, those conditions must be completed in the manner and schedule outlined in the approval documents. They are enforceable by the Department, and there are a variety of remedies available to the Department if the conditions are not satisfied. The conditions attached to this approval are substantive and reflect work that must be completed in order to ensure the TAPS Pipeline Cplan is in compliance with State statutory and regulatory requirements once its operation is modified by APSC's SR project. Each condition attached to the SR amendment approval includes a description of the work to be done and a schedule for its completion. The Department has authorized implementation of the SR Amendment by TAPS Region. In order to ensure the public has adequate opportunity to review non-routine amendments, the Department's Condition of Approval No. 3 requires a final public comment period and Department review for each Region prior to implementation of the proposed SR Amendment for that Region.<sup>1</sup>

### **What does it mean when actions are included in the Compliance Schedule Section?**

Part 3, Section 3.7 of this plan is called the Compliance Schedule Section. This section allows the plan holder to make specific commitments to address areas of the plan that may not currently be in full compliance with State law. By including commitments in the Compliance Section that are satisfactory to the Department, the plan holder establishes its own compliance schedule. In most cases, if issues are not fully incorporated into the Compliance Section, the Department would have to assure plan compliance by some other means, such as a Conditional Approval or a Compliance Order by Consent. The plan holder is responsible to implement the compliance schedules as written in the plan, and the Department has the authority to enforce those commitments. In this case, APSC's SR Amendment includes several items for the Compliance Section of the Cplan. However, because some of those commitments did not extend to a conclusion the Department deems necessary for assuring compliance, the Department has written conditions for some portions of the Compliance Section.

### **Changes in this Contingency Plan Amendment**

The proposed amendment reflects changes in both the facility (pump stations and pipeline) and management of maintenance and response operations. Several revisions included in the SR Amendment are only partially linked to operational changes based on the SR Project. One of those changes includes changes to dynamic spill segment volumes in Region 5 caused by replacement of valve actuators in June 2003 that were needed to prevent pipeline over-pressurization when PS 12 is permanently taken off-line. While taking PS 12 off-line is related to the SR Amendment in that there is a corresponding proposal to remove the pipeline right-of-way maintenance and response crews from the facility, taking the station off-line as a pumping facility is an operational decision made by APSC independent of the SR project.

Similarly, while preparing the SR amendment, APSC discovered that actuator replacements in previous years had changed dynamic segment volumes in Regions 1, 2, 3 and 4 that created a

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<sup>1</sup> Alaska Department of Environmental Conservation, TAPS Pipeline Oil Discharge Prevention and Contingency Plan Amendment Approval letter, December 30, 2003, p. 5

slightly higher Response Planning Standard (RPS) volume for the TAPS Pipeline. These increased segment volumes are also included in the SR Amendment, although an update would have been required regardless of the SR project status. In order to ensure that the TAPS Pipeline Cplan accurately reflects current operations as discussed in this paragraph, Condition of Approval No. 1 in the Department's SR Amendment approval decision includes a detailed list of sections from the SR Amendment that must be incorporated into the Cplan within 45 days of the approval decision.<sup>2</sup> The listed sections also include editorial changes that provide routine updates to the Cplan.

The following list identifies some of the most notable proposed changes:

- RPS increases from 49,450 barrels to 51,599 barrels (PLMP 508 – 512, after prevention credits are applied).
- Initial Open-Water RPS increases from 31,876 barrels to 34,025 barrels (approximately 66% of RPS, PLMP 508 – 512, after prevention credits are applied).
- *If PS 7 is taken offline*, RPS increases to 56,233 barrels (PLMP 320.4 – 331.4, after prevention credits are applied). No impact to initial open-water RPS.
- PS 12 will be taken off-line.
- PS 7 *may* be taken off-line.
- Table 3.14, Calculated Dynamic Spill Volumes, has been revised to show increases from PLMP 166.6 through PLMP 528.8 and PLMP 641.5 through PLMP 800. Alternate volumes are provided for PS 7 in operational status and off-line.
- Pipeline Right-of-Way Maintenance Crews and Response Personnel will no longer be stationed at PS 3, PS 7, PS 11 and PS 12.
- Response personnel positions from the un-staffed PS will be reallocated to PS 1, PS 4, the Fairbanks Regional Response Base, and a new Glennallen Regional Response Base.
- One Maintenance Coordinator position will be eliminated.
- Two additional Oil Spill Response Coordinator positions will be created for the northern and southern regions of the pipeline.
- Two new oil spill scenarios are included in the amendment: a new RPS Scenario for the Fed Creek/Ray River area (PLMP 320.4 – 331.4) and the Little Tonsina River Scenario has been completely revised to reflect one increased dynamic segment volume in the area and the closure of PS 12.
- All oil spill scenarios have been revised to reflect changes in spill response configuration.
- Turbine fuel and diesel fuel tanks will be removed from PS 3, PS 6, PS 7, and PS 12.
- The crude oil break-out tank at PS 12 will be isolated and taken out of service, but it will remain on the former PS 12 pad.
- Spill response equipment currently housed at PS 8 will be moved to the Fairbanks Regional Response Base.

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<sup>2</sup> Alaska Department of Environmental Conservation, TAPS Pipeline Oil Discharge Prevention and Contingency Plan Amendment Approval letter, December 30, 2003, pp. 2 - 3

- Spill response equipment currently housed at PS 11 and PS 12 will be moved to the Glennallen Regional Response Base.
- 64 Containment sites will be upgraded. Generally upgrades include expanded grooming and access improvement. 31 of those sites will receive additional pre-staged response equipment.
- Three helicopters in APSC's fleet located at PS 4, Fairbanks and Glennallen will be upgraded to Bell 407s or helicopters of equivalent speed, capacity and range.
- The 2001 Capstone TAPS Risk Analysis will be updated to account for operational changes.
- APSC will perform a crude oil spill fate and transport study for areas potentially impacted by reconfigured spill prevention and response operations. The design and scope of the study will be coordinated with regulating agencies.
- Estimated ground reconnaissance times will increase by approximately 1 hour in three areas when Line Volume Balance system (LVB) alarms or non-specific reports of oil spills trigger a reconnaissance. (The SR Amendment does not propose to modify APSC's Transient Volume Balance, or TVB, leak detection system, which is considered Best Available Technology. This primary leak detection system allows controllers to identify a spill location within a 20-mile range, in turn allowing reconnaissance to be completed within much shorter time frames.)

Our review of the SR Amendment has been from the perspective that the whole line is impacted by the facility and management changes listed above. Therefore, the issues discussed in this document are intended to identify the overall impacts to prevention and response based on strategic reconfiguration. Nonetheless, we have endeavored to differentiate between issues raised by the SR Amendment, on-going compliance issues, and recommendations for enhancements that are beyond the Department's authority

#### **Format for This Document:**

The issues identified in this document have come about as a result of the Department's step by step analysis of the submitted SR Amendment, additional information provided by the plan holder and careful consideration of written comments from the public.

This document uses the following format to address each of the selected topics:

- (1) Statement of Issue
- (2) Findings
- (3) Regulatory Authority
- (4) Response to Comments and Basis for Decision

The Department has benefited from and appreciates the contribution of many individuals and organizations during the public process of reviewing and approving the SR Amendment. Any questions concerning these findings may be directed to Becky Lewis at (907) 257-1374.



## ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADNR	Alaska Department of Natural Resources
ADF&G	Alaska Department of Fish and Game
AFER	Alaska Forum for Environmental Responsibility
ANS	Alaska North Slope
APSC	Alyeska Pipeline Service Company
AS	Alaska Statute
BAT	Best Available Technology
BLM	Bureau of Land Management (U. S. Dept. of the Interior)
BWT	Ballast Water Treatment
CCA	Copper Country Alliance
Cplan	Contingency Plan (Oil Discharge Prevention and Contingency Plan)
ESA	Environmentally Sensitive Area
JPO	Joint Pipeline Office
ICS	Incident Command System
LVB	Line Volume Balance Leak Detection System
OCC	Operations Control Center
OMS	Oil Movements and Storage
PM	Preventive Maintenance
PWS	Prince William Sound
PWS RCAC	Prince William Sound Regional Citizens' Advisory Council
RFAI	Request for Additional Information
RMROL	Realistic Maximum Response Operating Limitations
RPG	Response Planning Group
RPS	Response Planning Standard
SID	Supplemental Information Document
SR	Strategic Reconfiguration
TAPS	Trans-Alaska Pipeline System
TVB	Transient Volume Balance Leak Detection System
VMT	Valdez Marine Terminal
YRDFA	Yukon River Drainage Fisheries Association

## **Issue No. 1: Protection of Environmentally Sensitive Areas and Areas of Public Concern**

### **Statement of Issue**

Does the SR Amendment adequately identify the impact of the proposed facility and management changes on the oil discharge risks? Are risks to environmentally sensitive areas or areas of public concern increased by SR changes? Does the SR Amendment adequately demonstrate APSC's ability to protect environmentally sensitive areas and areas of public concern before oil reaches them?

### **Findings**

The Department finds that the TAPS Pipeline Cplan does not adequately identify impacts to oil discharge risks imposed by SR changes to the facility and management of the TAPS Pipeline. Further, because those risks have not been analyzed, the SR Amendment also does not fully identify actions taken to reduce risks of oil discharges, including oil discharge risks to environmentally sensitive areas and areas of public concern.

The Department acknowledges APSC's inclusion of two commitments in Compliance Section 3.7.5 to address the issue: updating a 2001 Risk Analysis and performing a crude oil spill fate and transport study. However, the Department finds that the scope and schedule of these actions is not adequate to comply with statutory and regulatory requirements to identify risks, mitigate risks, and plan to protect environmentally sensitive areas and areas of public concern before discharged oil reaches them. Therefore, the Department is requiring the following actions as a Condition of SR Amendment Approval:

The Capstone Risk Analysis Update and "crude oil fate and transport Study" described in Section 3.7.5 of the SR Amendment must be completed as described below before any response personnel or equipment are reduced or re-located as described in the SR Amendment. As described below, specific additional TAPS Cplan amendments must be submitted and will be reviewed according to procedures outlined in 18 AAC 75.455.

- a. Prior to incorporation of any portions of the SR Amendment not specifically identified above in Condition of Approval No. 1, APSC must complete the Capstone Risk Analysis update, evaluate its findings and conclusions, develop an additional plan amendment summarizing its findings, and submit the amendment for review at least 90 days prior to implementation as described in this Condition and Condition of Approval No. 3.
  - i. Approach and Methodology of Risk Analysis Update. The Risk Analysis update shall be conducted for the entire TAPS Pipeline. The methodology employed must follow the description included in the TAPS Pipeline Cplan, Section 3.3.3.1 with the following exception: Contrary to the assumption in the original Risk Analysis, APSC must factor all changes in TAPS maintenance

- and surveillance programs and their implementation under Strategic Reconfiguration into the update.
- ii. The Risk Analysis should include identification of risks associated with the new mainline pump units that will be located outside of the present manifold buildings and thus outside of secondary containment.
  - iii. Schedule. The Capstone Risk Analysis update shall be completed and a copy of the report provided to the Department no later than 120 days prior to proposed implementation of any SR Amendment changes beyond those identified in Condition Number 1 above. APSC must prepare a plan amendment summarizing its findings, including actions to reduce risks identified in the update. If APSC proposes additional risk reduction actions, a detailed work plan and schedule must be submitted as a Compliance Section amendment. These amendments must be submitted at least 90 days prior to any proposed implementation of any portion of the SR Amendment, and as noted above, they will be subject to Department and public review.
- b. The SR Amendment may be implemented by designated TAPS Pipeline Regions R1, R2, R3, R4 and R5. Prior to implementation of the SR Amendment for a Region, APSC must complete the corresponding regional portion of the "fate and transport study" described in Section 3.7.5 of the SR Amendment, evaluate its findings for the pertinent Region, develop an additional plan amendment summarizing Regional findings and submit the amendment for that Region for review at least 90 days prior to proposed implementation as outlined in Condition of Approval No. 3.
- i. APSC will coordinate with the Department on the design and scope of the study. The TAPS crude oil spill fate and transport study shall be conducted for the entire pipeline. The study shall minimally include or focus on the following factors, although it may be expanded as APSC wishes:
    - Pathways and trajectories of releases, accounting for seasonal and environmental variables such as terrain slope, vegetation absorption properties, and open-channel flow;
    - Spill hydraulics and dynamic spill volume segment changes;
    - An evaluation against APSC's response timing assessments, current response capabilities, and results of the Risk Analysis update; and
    - Identification of potential mitigation efforts for areas where response may be impacted; Potential mitigation efforts to be considered include:
      - On-land response tactics, including civil response
      - Additional equipment
      - Pre-staged equipment sites
      - Identification and planning for new Containment Sites
      - Improvements to current Containment Sites

Schedule. The crude oil spill fate and transport study may be conducted on a regional basis to facilitate APSC's Regional SR implementation schedule. APSC

must prepare a plan amendment summarizing its findings. If APSC proposes additional measures such as those outlined in (b)(i) above, a detailed work plan and schedule must be submitted as a Compliance Section amendment. The study for Region 5 must be completed and provided to the Department no later than 120 days prior to proposed implementation of Region 5 SR Amendment changes beyond those identified in Condition of Approval No. 1 above. Similarly, as each of the fate and transport study for Regions 1, 2, 3, and 4 are completed, they must be provided to the Department no later than 120 days prior to proposed implementation of the pertinent Region SR changes. An amendment must be submitted to the Department that summarizes the findings of the study for each Pipeline Region at least 90 days prior to proposed incorporation of the corresponding SR Amendment sections into the Cplan, and as noted above, amendments will be subject to public and Department review according to procedures outlined in 18 AAC 75.455.

### **Regulatory Authority**

The regulations under 18 AAC 75.425(e)(1)(F)(v) require: "...for a stationary facility or operation...procedures and methods to exclude oil from environmentally sensitive areas and areas of public concern identified under (3)(J) of this subsection, including for a land-based facility, protection of ground water and public water supplies;..."

The regulation under 18 AAC 75.445(d) states "...Response Strategies. The response strategies must take into account the type of product discharged and must demonstrate that ...(4) sufficient oil discharge response equipment, personnel, and other resources are maintained and available for the specific purpose of preventing discharged oil from entering an environmentally sensitive area or an area of public concern that would likely be impacted if a discharge occurs, and that this equipment and personnel will be deployed and maintained on a time schedule that will protect those areas before oil reaches them according to the predicted oil trajectories for an oil discharge of the volumes established under 18 AAC 75.430 – 18 AAC 75.442; areas identified in the plan must include areas added by the Department as a condition of plan approval."

The Department's oil spill prevention regulations under 18 AAC 75.425(e)(2)(C) require certain analyses to better identify risks and mitigation measures:

...an analysis of potential oil discharges, including size, frequency, cause, duration, and location, and a description of actions taken to prevent a potential discharge...

In addition, 18 AAC 75.425(e)(3)(J) requires plan holders to provide specific information regarding the protection of environmentally sensitive areas and areas of public concern:

...for a stationary facility or operation...mapped predictions of discharge movement, spreading, and probable points of contact, based on expected local, seasonal, meteorologic, and oceanographic or topographic conditions; and, for

each probably point of contact, a description of each environmentally sensitive area and each area of public concern, including:

- (i) the effect of seasonal conditions on the sensitivity of each area;
- (ii) a discussion of the toxicity effects and persistence of the discharge, based on type of product; and
- (iii) an identification of which areas will be given priority attention if a discharge occurs.....

Finally, AS 46.04.030(e) states that the Department "...may attach reasonable terms and conditions to its approval or modification of a contingency plan that the department determines are necessary to ensure that the applicant for a contingency plan has access to sufficient resources to protect environmentally sensitive areas...."

### **Response to Comments and Basis for Decision**

The Department received many comments reflecting concern that the SR Amendment did not sufficiently demonstrate APSC's ability to protect environmentally sensitive areas or areas of public concern. Some comments focused on the adequacy of the proposed enhancements to 64 Containment Sites to offset increased response times caused by re-location of response equipment and/or response personnel. Commentors also recommended that additional Containment Sites be developed to intercept oil closer to the source (TAPS Pipeline) that would include more on-land response tactics to divert and collect oil before it impacted a river or stream. Other comments urged the Department to ensure protection of major rivers and their drainages, including the Yukon River, Copper River and Lowe River.

One commentor recommended that the Department require what they identified as "GRS [Geographic Response Strategy] level response planning" for the TAPS Pipeline<sup>3</sup>. The recommendation included creating five regional multi-stakeholder workgroups that would identify and develop 20 GRSs per Pipeline Region per year, for a total of 100 GRS sites per year. The recommendation also included requiring Containment Site documents in the TAPS Cplan to follow the same format as GRSs in use in other areas of the State and that they be expanded to include photographs, equipment lists, and logistical considerations.

The commentor stated that the Containment Sites included in the Cplan and GRSs were both site specific response plans and suggested that their goals were the same. When CS (over 200) were first developed in the early 1990s, the goal was to pre-identify natural access points, natural eddies, and other natural drainage features along the Pipeline route that would allow responders to contain and collect spilled oil as near to the Pipeline as possible. In that regard, the Containment Sites identified in the Cplan, including the 64 sites that have proposed enhancements in the SR Amendment, are site specific response strategies. However, they were not designed to protect specific individual high-value sites as much as to stop oil from entering a wide variety of environmentally sensitive areas along the Pipeline corridor. Conversely, GRSs

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<sup>3</sup> Prince William Sound Regional Citizens Advisory Council, TAPS Pipeline SR Amendment Comments, 12/

are site specific response strategies developed to protect specific environmentally sensitive areas and areas of public concern by identifying strategies, tactics, and resources needed to exclude or divert oil from the specific site. In that regard, GRSs are designed to be defensive, while the Containment Sites are intended to identify sites, tactics, and resources that may be utilized to contain oil as close to the Pipeline as possible.

In a marine environment, where a spill could originate from and travel to a wide variety of shoreline or other sensitive areas, developing GRSs for specific high-value sites is a prudent planning effort that has been supported and required by the Department for marine vessel plan holders. However, there is no segment of the 800-mile pipeline route that could be identified as free from either environmental, scenic, recreation, or other cultural value sites immediately adjacent or in the near downstream area from the Pipeline. For this reason, Containment Sites are only one tool identified in the TAPS Pipeline Regional Plans for protecting environmentally sensitive areas. The Cplan relies heavily on the training and knowledge of response and maintenance crews to rapidly identify alternate areas where control and containment tactics can be deployed in addition to the pre-identified Containment Sites. Information about environmental sensitivities is included in the Regional Plans and provided in much greater detail for planners and responders in the APSC Environmental Atlas of the Trans Alaska Pipeline System (EA-119).

Because the SR Amendment continues to include an offensive rather than defensive approach to protecting environmentally sensitive areas, which is designed to control and contain oil as close to the Pipeline as possible, the Department believes it is in keeping with the intent of the State regulations outlined above. Nonetheless, Department response personnel agreed that the usability of the Containment Site diagrams would be enhanced if the legends were standardized as much as possible with other response planning documents used in the State. The Department will recommend APSC consider standardizing the Containment Site diagrams. Also, the Department agrees that enhancing the Containment Sites to improve access, better diagram the site, pre-stage equipment at selected sites, and to document additional tactics, is a valid approach to mitigating some of the impacts of the response organization changes proposed in the SR Amendment. APSC informed the Department of a management decision to submit a request to APSC's Project Review Board that will include evaluation of the Containment Sites not addressed as part of the SR Amendment.<sup>4</sup> The Department supports this project and finds that it will enhance the usefulness of the currently identified Containment sites.

In addition to the discussions regarding the specific modes of environmental protection, several reviewers commented that SR Amendment changes should not be implemented until the risks, potential impacts, and potential mitigating measures were identified for each TAPS Pipeline Region. Notwithstanding the discussion above regarding the approach of utilizing Containment Sites as a planning tool, the Department agrees that SR Amendment does not fully account for the cumulative impacts of SR changes on APSC's ability to adequately protect environmentally sensitive areas and areas of public concern along the TAPS Pipeline route. Changes identified in the SR amendment include increased dynamic spill volumes, reduced and/or reallocated response

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<sup>4</sup> APSC Government Letter No. 311 to ADEC, Table: 18 OSCP DPO Issues, DPO No. 1, December 8, 2004

personnel and equipment, and increased deployment times to some environmentally sensitive areas. The Department believes that impacts to protection of sensitive areas is greater than can be determined by APSC's model that primarily considered the quantifiable increases in ground-based response times to the existing Containment Sites. Portions of every region of the Pipeline are impacted by operational changes identified the SR amendment – either because dynamic spill volumes of individual Pipeline segments are increased or because response times to Containment Sites are increased. In some locations, the combination of both increased dynamic spill volumes and increased response times suggest even greater potential impacts that are not yet fully understood.

APSC responded to the Department's RFAI regarding protection of environmentally sensitive areas by agreeing to the following actions in Section 3.7.5 of the SR Amendment:

- 1) APSC agreed to update the 2001 Screening Risk Analysis performed by Capstone Engineering Services, Inc. to "...account for future Strategic Reconfiguration changes. These changes include pump station closures, longer mainline valve closure times, and any line pressure changes. This update will be completed by the end of the 4<sup>th</sup> quarter 2004..."<sup>5</sup> and
- 2) APSC agreed to perform a crude oil spill fate and transport study "...for areas potentially affected by Strategic Reconfiguration changes. This study will focus on pathway and trajectory of releases, taking into account environmental variables such as terrain slope, vegetation absorption properties, and open-channel flow. The study will also address spill hydraulics and volume changes. The study results will be matched against APSC response-timing assessments and will be used to identify critical areas where mitigation efforts may be warranted and focused. This study will be completed by the end of 2004 for Region 5 and by the end of the 3<sup>rd</sup> quarter of 2005 for the remaining four regions."<sup>6</sup>

The 2001 Capstone Screening Risk Analysis is a mile-by-mile study of risk conditions along the TAPS Pipeline that was conducted in response to pipeline operations and conditions in the late 1990s. The Approach and Methodology of the Capstone study, as described in the currently approved Cplan in Section 3.3.3.1, should be utilized for the update. However, the Department notes that one of the assumptions for the Capstone study may no longer be valid. The assumption that TAPS maintenance and surveillance programs currently in place will continue for the foreseeable future should be re-examined so that all changes in the way APSC will manage its maintenance and surveillance programs are factored into the risk analysis update. As noted previously in this document, the Department believes that SR changes will have line-wide impact, and therefore we believe the risk analysis update should be conducted for the entire TAPS Pipeline.

Through coordination with the JPO, the Department learned that under SR the new electricity powered mainline crude oil pumps will no longer be located inside a building that provides

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<sup>5</sup> TAPS Pipeline SR Amendment, Rev. 10/31/03, p. 3-105

<sup>6</sup> TAPS Pipeline SR Amendment, Rev. 10/31/03, pp. 3-105 – 3-106

effective secondary containment. Rather, the new mainline pumps will be located outside with no provision made for secondary containment. While the Department does not require secondary containment for pumping equipment associated with crude oil transmission lines, we believe the new pumps, located outside of secondary containment, may represent an increased risk. This risk is tacitly acknowledged in the SR preliminary design that calls for sloped surfaces around the pumps so that discharged oil will drain away, thereby reducing the hazard of a fire related to the discharge. The Department believes APSC should fully identify any risk associated with this modified operation as well as measures to reduce that risk.

APSC has taken proactive steps to provide a preliminary outline of a crude oil spill fate and transport study in the SR Amendment. However, the Department finds that the scope of the study should be expanded to include seasonal variations and identification of potential mitigating measures. The findings of the study should be evaluated against current response capabilities and the Risk Analysis update, as well as against APSC's response timing assessments for individual Containment Sites. For oil spill response planning purposes, the TAPS Pipeline has been divided into five distinct Regions generally defined by significant geographical features: Region 1 (R1) starts at Prudhoe Bay and ends just south of Atigun Pass; Region 2 (R2) extends from Atigun Pass to the Yukon River; Region 3 (R3) extends south to the Salcha River; Region 4 (R4) extends from the Salcha River to the Gulkana River; and Region 5 (R5) extends from the Gulkana River to the marine terminal in Valdez. Because of the regionally based response structure, the Department believes it is reasonable for APSC to complete the fate and transport study on a regional basis rather than requiring the study to be completed for the entire 800-mile pipeline route before implementing any portions of the SR Amendment.

The schedule proposed in the Compliance Section for both the Risk Analysis update and the crude oil spill fate and transport study does not provide the opportunity for APSC to fully identify risks, methods to reduce those risks and potential impacts to environmentally sensitive areas prior to implementation of SR changes. In some cases it is reasonable to conduct refinements to risk assessments and other studies designed to more fully understand operational impacts on the environment. However, the changes proposed for oil spill response planning are significant, and therefore the proposed studies should be completed as described above, and their conclusions and recommendations evaluated and incorporated into the SR Amendment prior to reallocating response personnel, equipment, and other resources APSC relies on to protect environmentally sensitive areas and areas of public concern.

For the reasons listed above, the Department has included Conditions of Approval to assure proper identification of risk and risk reduction measures related to the SR amendment, to assure APSC plans and maintains adequate resources for the protection of environmentally sensitive areas and areas of public concern, and to ensure the public has adequate opportunity to review non-routine amendments.



## **Issue No. 2: Response Capability and Readiness Under SR**

### **Statement of Issue**

Does the SR Amendment provide assurance that APSC will have sufficient response capability to meet State oil spill control, containment, and cleanup requirements?

Do the new and revised oil spill scenarios included in the SR Amendment adequately demonstrate implementation of response strategies to control, contain and cleanup the new RPS volume discharge and to protect environmentally sensitive areas and areas of public concern before oil reaches them?

Do the management, operational, or facility changes described in the SR Amendment negatively impact APSC's ability to control, contain and cleanup an RPS volume oil discharge and to concurrently protect environmentally sensitive areas and areas of public concern before oil reaches them?

### **Findings**

The Department finds that the scope and variety of oil spill scenarios contained in the SR Amendment provide sufficient information to demonstrate APSC's response to the new RPS volume discharge for the TAPS Pipeline. However, the Department also finds that strategies, tactics and assumptions in the new and revised scenarios in the SR Amendment need to be validated through both industry and government initiated drills and exercises following implementation of the changes described in the SR Amendment. The Department will conduct unannounced exercises to validate APSC's ability to respond to an RPS volume discharge within the required time frames and provide adequate protection of environmentally sensitive areas and areas before oil reaches them. The Department will also work with APSC, through the Response Planning Group (RPG), to identify improvements to the scenarios and ensure that any identified lessons learned are incorporated into the scenarios prior to APSC's 2006 application for Cplan renewal.

The Department finds that APSC's TAPS Pipeline Oil Spill Response Exercise Program for November 2004 through November 2006 must focus on practicing and testing response strategies, tactics, and deployment logistics that are modified to accommodate the SR project.

Therefore, the Department is requiring the following actions as a condition of SR Amendment approval:

In accordance with the Conditions of Approval regarding TAPS Pipeline Oil Spill Exercise Program Schedule requirements from the November 29, 2001 Cplan approval and the June 30, 2003 Cplan approval extension, APSC will be required to make the following modifications:  
By October 1, 2004, provide an updated Oil Spill Response Exercise Program:

- a. Schedule that extends through the end of the TAPS Pipeline Cplan renewal period (November 30, 2006), including at least eight (8) drills and exercises that are commensurate with Combined Resource and Scenario exercises.
- b. The updated Oil Spill Response Exercise Program Combined Resource and Scenario exercises conducted from November 2004 through November 2006 are to focus on demonstrating APSC spill response capabilities by deploying personnel and equipment in a manner that will validate the new and modified oil spill scenarios contained in the SR Amendment. The Department and the agencies of the JPO will work with APSC through the RPG to assure the scope and objectives for each exercise will provide the required validation.
- c. To ensure that the public has adequate opportunity to review and comment on non-routine plan amendments, the updated Oil Spill Response Exercise Program will be reviewed in accordance with review procedures outline in the regulations under 18 AAC 75.455.

Finally, in order to assure the oil spill scenarios reflect the validation provided by the TAPS Pipeline Oil Spill Response Exercise Program, the Department and the agencies of the JPO will work with APSC through the RPG to identify recommended Cplan and scenario revisions based on lessons learned from the Combined Resource and Scenario exercises and/or actual discharge responses. Agreed upon lessons learned must be incorporated into the Cplan, and specifically into the oil spill scenarios, in the 2006 TAPS Pipeline Cplan renewal application.

#### **Regulatory Authority**

The requirement for Cplans to include response strategies is found in 18 AAC 75.425(e)(1)(F):

“Response Strategies – a description of the discharge containment, control, and cleanup actions to be taken, which clearly demonstrate the strategies and procedures adopted to conduct and maintain an effective response; this information must be presented in the form of a response scenario to a discharge of the applicable response planning standard volume and must be usable as a general guide for a discharge of any size....”

Further, approval criteria for deployment and response strategies in Cplans is found in 18 AAC 75.445(c) & (d)(4) & (5):

- c. Deployment strategies. The plan must demonstrate that the identified personnel and equipment are sufficient to meet the applicable response planning standard and can be deployed and operating within the time specified under 18 AAC 75.430 – 18 AAC 75.442. The plan must state what conditions were assumed and must take into account the realistic maximum operating conditions and their effects on response capability and the deployment of resources. Plans using contractual resources must demonstrate that the transition and substitution of equipment and resources will occur without interruption of response or cleanup.

- d. Response Strategies. The response strategies must take into account the type of product discharged and must demonstrate that:
4. sufficient oil discharge response equipment, personnel and other resources are maintained and available for the specific purpose of preventing discharged oil from entering an environmentally sensitive area or an area of public concern that would likely be impacted if a discharge occurs, and that this equipment and personnel will be deployed and maintained on a time schedule that will protect those areas before oil reaches them according to the predicted oil trajectories for an oil discharge of the volumes established under 18 AAC 75.430 – 18 AAC 75.442; areas identified in the plan must include areas added by the department as a condition of approval;
  5. plan strategies are sufficient to meet the applicable response planning standard established under 18 AAC 75.430 – 18 AAC 75.442 for containment, control, recovery, transfer, storage, and cleanup within the specified time and under environmental conditions that might reasonably be expected to occur at the discharge site.

Drills and Exercises are described as a tool by which the Department may validate response capability and readiness in 18 AAC 75.485:

- (a) The department will, in its discretion, conduct announced and unannounced discharge exercises to assure that an oil discharge prevention and contingency plan is adequate in content and execution. No more than two exercises will be required in each 12-month period, unless an exercise demonstrates, in the department's judgment, a plan holder's failure to effectively implement the plan.
- (b) Execution of a plan during a discharge exercise will be considered inadequate if the readiness for response and response performance stated in the plan are significantly deficient due to inadequate mobilization or performance of personnel, equipment, other resources, or other factors, including the mobilization or performance of a response action contractor....
- (c) If a plan holder cannot adequately execute the plan during a discharge exercise, the department will, in its discretion,
  - 1) Require additional exercises until it is satisfied that the prevention and contingency plan and its execution are adequate; or
  - 2) Take other appropriate actions as described at 18 AAC 75.490....
- (e) The department will conduct announced or unannounced discharge exercises appropriate to the plan holder's current status of operation.

#### **Response to Comments and Basis for Decision**

The primary requirement for demonstrating response capability in a Cplan is for the plan holder to utilize a variety of means to describe the strategies, tactics and resources that it has at its disposal to contain, control and cleanup an oil discharge of an RPS volume within specified

timeframes. For a pipeline, the requirement is to contain, control and cleanup the portion of the discharge that enters open water within 72 hours, to contain and control the on-land discharge within 72 hours, and to clean-up the on-land discharge within the shortest time possible. Determining the RPS is critical to providing adequate demonstration of APSC's ability to meet those requirements.

The RPS volume for the Pipeline has been changed in the SR Amendment. Two RPS options are presented based on whether APSC decides take PS 7 off-line or to keep it operational as in the currently approved Cplan. If PS 7 remains operational, the RPS increases from 49,450 barrels to 51,599 barrels, an approximate 4% increase. Under SR, the Minton Creek Scenario is maintained to demonstrate the response to the new RPS amount. Under that scenario, 34,025 barrels of oil will reach open water.

If PS 7 is taken off-line, the largest segment RPS volume will be 59,133 barrels. After prevention credits are calculated, APSC will be required to demonstrate a response to 56,233 barrels. This response has been demonstrated in a new oil spill scenario, Fed Creek/Ray River, which describes a response to a release from PLMP 324. However, only 5,509 barrels of this release would be expected to reach open water. Therefore, if PS 7 is taken off-line, the Minton Creek Scenario will be retained, as modified in the SR Amendment, to provide the open-water RPS response scenario for the TAPS Pipeline Cplan.

The Department reviewed recommendations from one commentor to require APSC to create resource lists for each Pipeline Region that reflect individual regional RPS volumes and included recommendations for specific helicopters and other response equipment in addition to the resources listed in either the current Cplan or in the SR Amendment. The equipment lists in the Regional Plans have been reorganized but not diminished in the SR Amendment. Further, APSC has specified helicopter upgrades in the Compliance Section that will significantly increase load capacity available for supporting response actions under SR. The crude oil spill fate and transport study discussed above under Issue Number 1, will be conducted for each Pipeline region and will assist the Department in verifying that the resources in each region are adequate for performing the initial phases of APSC's tiered response plan.

Another commentor recommended that a worst-case oil spill scenario be developed for each Pipeline region based on regional RPS volumes. The focus of the comment was on the Little Tonsina River Scenario, which replaces the PS 12 Scenario in the current Cplan. The Little Tonsina River Scenario does not depict a response to the segment of the Region 5 pipeline that has the greatest dynamic spill volume. In its November 2001 Cplan approval, the Department found that there was no regulatory requirement to develop RPS response scenarios for each segment.<sup>7</sup> The Department maintains its position that APSC's line-wide tiered response strategy

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<sup>7</sup> Alaska Department of Environmental Conservation, Trans Alaska Pipeline System Pipeline Oil Discharge Prevention and Contingency Plan Findings Document and Response to Comments, November 2001, "The Department does not find that there is a regulatory requirement to develop response scenarios for each segment. The Department interprets the regulations as requiring a detailed scenario for the largest volume, and that this scenario is to be 'used as a general guide for a discharge of any size'. The Department recognizes that each area of the pipeline presents unique challenges for response, deployment, and conditions, however, much of the information in the RPS

allows APSC to demonstrate response capability through the thirteen scenarios now detailed in the SR Amendment. The Department agrees with comments received from within our Division, trustee agencies and public commentators that response capability under SR response organization must be verified through drills and exercises.

In addition to the specific comments on response scenarios, the Department received many general comments related to possible diminishment of APSC's capability to respond to RPS volume spills based on changes described in the SR Amendment. As discussed in Issue No. 1 above, concerns were raised concerning APSC's ability to protect environmentally sensitive areas and areas of public concern prior to oil reaching them as well. The Cplan is required to demonstrate APSC's ability to meet criteria established for both response objectives. Although several commentators called for maintaining equivalent or better response capability than is demonstrated in the currently approved Cplan, the Department does not evaluate a Cplan or amendments on criteria of equivalency or improvement. The Department's criteria are clearly described in the regulations listed above, and our review is limited to how the SR Amendment demonstrates the ability of APSC to comply.

Another area of concern for several commentators is the reduction of APSC provided housing for response staff and contractors in urban areas. In particular, concern was expressed that response capability will be reduced when personnel currently housed at PS 12 are reassigned to the Glennallen Response Base but are responsible for their own local accommodations. Recall time for off-duty responders was a concern due to potentially long commutes in the Glennallen area. The Department agrees there is potential for lengthy recall times to create a delay in response after normal duty hours. Other concerns included limitations on response capability because personnel who are not housed in APSC facilities are able to engage in activities that would preclude their immediate inclusion on a response team.

The Department agrees that the change in control over responders' activities while on shift has potential to decrease response capability after normal duty hours. However, the TAPS Pipeline operates under a currently approved Cplan utilizing response crews on urban schedules in Fairbanks, Delta, Glennallen, and Valdez. The Department is not aware of any response readiness problems resulting from utilization of response staff and contractors on an urban schedule. State regulations do not require a plan holder to provide company housing and control the activities of their response personnel after duty hours. It is beyond the Department's authority to require the APSC to provide these services to its employees. However, the Department does have the authority to require APSC to maintain in-region (or out of region with Department approval) sufficient oil discharge equipment, personnel and other resources to contain, control and clean up an oil discharge of the applicable RPS volume and to prevent discharged oil from entering an environmentally sensitive area or an area of public concern.

The Department has the authority to conduct unannounced exercises to demonstrate APSC's ability to implement the required oil discharge response at any time the pipeline is operating (18

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scenario may be inferred for other areas since Alyeska uses a line wide, tiered response strategy to utilize equipment and personnel to various parts of the line. For this reason, ten scenarios in addition to the RPS volume scenarios were added to the 1998 plan to demonstrate capabilities." p. 16.

AAC 75.485(a)). If the plan holder is found to be unable to implement a response using the approved Cplan as a guide, the Department has the authority to take actions to ensure the plan holder's Cplan content and execution is adequate. The Department intends to utilize the tool of unannounced exercises to verify response readiness and recall capabilities in the areas impacted by re-location of response personnel under SR. This approach is supported by the recent passage of HB 74 by the Alaska State Legislature. HB 74 extended the renewal time for Cplans from three years to five years with the intention that the Department would use its resources to increase drills and inspections at regulated facilities. If the Department determines that the changes in housing or other SR changes have made it impossible for APSC to respond to the Pipeline RPS volume oil discharge or adequately protect environmentally sensitive areas, we will require APSC to take the necessary actions to come into compliance with their Cplan and to make any required modifications to the Cplan.

Because both APSC and agency-led response exercises play a critical role in ensuring the oil spill scenarios accurately demonstrate a successful RPS response, validating response tactics and strategies, and verifying response readiness, the Department has provided a condition of approval requiring APSC's Oil Spill Response Exercise Program to aggressively practice and test TAPS Pipeline response from November 2004 through November 2006, following implementation of SR changes. In keeping with the November 2001 TAPS Pipeline Cplan approval and the June 30, 2003 approval extension, and in order to ensure the public has adequate opportunity to review and comment on non-routine plan amendments, the Department will review the Oil Spill Response Exercise Program Schedule for November 2004 through November 2006 according to 18 AAC 75.455. Likewise, APSC must incorporate lessons learned from drills, exercises, and any actual spill responses into the oil spill scenarios for the TAPS Pipeline Cplan 2006 renewal application.

### **Issue No. 3: Pipeline Integrity: Mainline and Bypass Valve Testing**

#### **Statement of Issue**

Do the 48" Mainline Valves function properly and are they reliable for use in calculating the dynamic segment volumes for the TAPS Pipeline, including the RPS volume?

Are the 6" bypass valves located at each mainline valve maintained and inspected properly so that the pump-around skid can be connected to the mainline valve as a useful source control option for response personnel?

#### **Findings**

The Department finds that APSC's TAPS Valve Maintenance Management Plan (TVMMP), monitored by the JPO, provides sufficient assurance that current mainline valve function provides an acceptable basis for calculating the TAPS Pipeline RPS volume as well as the dynamic spill volumes for all of the TAPS Pipeline segments. Based on the JPO's on-going review and evaluation of testing and inspection procedures for the individual 6" bypass valves, which are also addressed through the TVMMP, the Department finds that there is reasonable basis for expecting the 6" bypass valves to support the use of the pump-around skid as a source

control option for TAPS Pipeline responders. The Department will coordinate closely with the JPO and APSC to ensure that the pump-around skid, modified following the MP 400 discharge event, remains a viable source control tool for the TAPS Pipeline.

### **Regulatory Authority**

Regulations outlining the calculation for RPS for crude oil transmission pipelines is found in 18 AAC 75.436(b):

“The response planning standard volume for a crude oil pipeline facility is the amount of oil which equals the length of the pipeline between pumping or receiving stations or valves (Lpl), minus the hydraulic characteristics of the pipeline due to terrain profile (Hpl), times the capacity of the pipeline in barrels per lineal measure (Cpl), plus the flow rate of the pipeline in barrels per time period (FRpl), multiplied by the estimated time to detect a spill event (TDpl) plus the time to shut down the pipeline pump or system (TSDpl). ....”

Requirements for source control strategies to be developed and included in the Cplan are found in 18 AAC 75.425(e)(1)(F)(i) and 18 AAC 75.455(d)(1).

18 AAC 75.425(e)(1)(F)(i): “Response Strategies – a description of the discharge containment, control, and cleanup actions to be taken, which clearly demonstrate the strategies and procedures adopted to conduct and maintain an effective response; this information must be presented in the form of a response scenario to a discharge of the applicable response planning standard volume and must be usable as a general guide for a discharge of any size; response strategies must include: (i) procedures to stop the discharge at its source and prevent its further spread; ....”

28 AAC 75.455(d)(1): “Response Strategies. The response strategies must take into account the type of product discharged and must demonstrate that (1) procedures are in place to stop the discharge at its source within the shortest possible time....”

### **Response to Comments and Basis for Decision**

The Department received several comments related to pipeline integrity, and one of the most frequently identified concerns was that the condition and leak-through rates for the 48-inch mainline valves and 6-inch bypass valves are unknown and possibly outside of acceptable operating parameters. The concerns include greater quantity of oil discharge than expected due to improper valve sealing and inability to safely and effectively utilize pump-around skids to reduce potential discharge volumes during a release event.

The Department believes that this issue is not directly related to the Strategic Reconfiguration Amendment under review at this time. However, because the TAPS Pipeline RPS volume is determined in part by an assumption that mainline valves seal properly and with acceptable leak-through rates, the Department agrees that verification of their status is an important component that allows APSC to propose the RPS volumes identified in Part 1, Section 1.1 of the SR

Amendment. One of the Compliance Section commitments in the currently approved TAPS Pipeline Cplan is that APSC would replace Remote Gate Valve (RGV) 39 in 2002. This replacement was completed as scheduled. The Department looks to the technical expertise of the agencies at the JPO and their formal oversight and monitoring programs established for Pipeline mainline and by-pass valves to determine whether the valves are functioning properly or represent an increased risk for spill prevention or response capabilities.

The JPO monitors the TAPS Valve Maintenance by onsite surveillances during valve repairs, replacements and maintenance, and by reviews and discussions relating to the TAPS Valve Maintenance Management Plan (TVMMP). Based on the work completed by APSC through the TVMMP, the JPO closed out the "Memorandum of Agreement in the Matter of the Assessment of Valves on the Trans-Alaska Pipeline" (Valve MOA) in 2001. Following is a brief history of work on the mainline and bypass valves conducted since 1996.

APSC began testing the performance of mainline and bypass valves in 1996. These tests confirmed Remote Gate Valve (RGV) 60 in combination with the 6-inch bypass valves would not seal completely when closed. Information from performing winterization maintenance suggested the problem might not be limited to RGV 60. At that time, four agencies and APSC entered into the Valve MOA, which established a valve-testing program to determine the sealing performance of the mainline valves and 6-inch bypass valves. Testing identified two valves, RGV 80, and Check Valve (CKV) 122 that had a greater leak-through rate and lower performance than RGV 60. In 1998, RGV 80 and the 6-inch bypass valves were replaced and CKV 122 was repaired in place with new 6-inch bypass valves installed. RGV 60 was replaced in 1999 and RGV 39 in 2002, both with new 6-inch bypass valves. Although additional testing has identified 48-inch and 6-inch valves with some leak through, the performance degradation is so slight they are not candidates for repair or replacement at this time but have specified dates to be retested.

All 6-inch bypass valves were tested at the same time as the 48-inch valves. If leakage was detected at a 48-inch valve, the 6-inch bypass valves were evaluated to determine what part if any of the leakage was through the 6-inch valve. Utilizing a listening device attached to the 6-inch bypass valve, the sound of the leakage was recorded to determine if the valve was contributing to the overall leakage. The results of the 6-inch bypass valve testing are recorded in the pipeline valve testing plans which have been reviewed by the Joint Pipeline Office. Several of the 6-inch bypass valves have been recommended for replacement for difficulty of operation, not for leak through.

Some 6-inch bypass valves are evaluated each year when the 48-inch valves are winterized and the condition of the 6-inch bypass valves are recorded if degradation of the valve sealing capabilities is determined. The 6-inch Orbit bypass valves cannot be tested during winterization due to the valve body configuration, WKM safety seal valves outfitted with body drains and vents can be tested, and Grove B5 valves can be tested during winterization when they are equipped with a body drain. The evaluation of the 6-inch bypass valves for leak through during winterization is accomplished with the 48-inch valves in the open position, in lieu of the closed position, as is done during testing of the 48-inch and 6-inch valves in combination. In the event



degradation is determined, the valve is evaluated for 3 years to see if the degradation continues or stays the same prior to replacement. Anytime a 48-inch valve is depressurized and drained down, the 6-inch bypass valves are replaced with Orbit valves. Several 48-inch valves were depressurized for stem seal repairs during mini shutdowns in 2003 and the 6-inch bypass valves were replaced.

Because of the complications in understanding the program used to assess several different models of 6-inch bypass valves, JPO has required APSC to provide a description of how each 6-inch bypass valve has been evaluated and appropriate references for the results of those evaluations in the next annual valve report.<sup>8</sup>

The Department finds that the on-going valve maintenance program as monitored by the JPO is sufficient to identify valves that need more frequent inspection or replacement and to ensure the repairs or replacements are conducted in an acceptable schedule that maintains confidence in the RPS identified for the pipeline, provides acceptable spill prevention capability, and facilitates the use of pump around skids for spill response. The Department will continue to coordinate closely with the JPO to review additional information about the 6-inch bypass valve assessment program and to assure the pump-around skid remains a viable source control tool for TAPS Pipeline responders.

## **Issue No. 4: Training**

### **Statement of Issue**

Does the SR Amendment demonstrate that response personnel are or will be trained in deployment of equipment that is added to the response implementation program? Specifically, will response personnel be adequately trained in all aspects of helicopter operations to ensure their successful incorporation in to the SR response plan?

### **Findings**

The Department finds that the modifications APSC incorporated into the SR Amendment in response to the Department's RFAI adequately address specific concerns regarding training for all response team members under Strategic Reconfiguration. Specifically, detailing the training and qualifications for the new Oil Spill Response Coordinator position assures the Department that the level of training required for initial field response leaders will be maintained under SR. Secondly, requiring initial and annual training in helicopter sling loading for all response personnel provides the Department assurance that field responders will have the knowledge and experience to effectively incorporate the upgraded helicopter fleet into the deployment plans outlined in the SR Amendment.

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<sup>8</sup> Bureau of Land Management, Trans-Alaska Pipeline System Pipeline Oil Spill Contingency Plan Approval – Annual Approval and Approval of Strategic Reconfiguration Amendments, December 31, 2003, p. 4.

### **Regulatory Authority**

18 AAC 75.425(e)(3)(I) requires the plan to contain "...a detailed description of the training programs for discharge response personnel."

Approval criteria are established by 18 AAC 75.445(j):

"Training. In addition to maintaining continuous compliance with other applicable state and federal training requirements, the plan holder shall demonstrate that designated oil spill response personnel are trained and kept current in the specifics of plan implementation, including deployment of containment boom, operation of skimmers and lightering equipment, and organization and mobilization of personnel and resources. The plan holder shall ensure that proof of training is maintained for three years and is made available to the department upon request."

### **Response to Comments and Basis for Decision**

On commentor recommended an overhaul of APSC's current training programs as well as enhanced training opportunities for helicopter operations that will play a larger response role under SR. APSC incorporated a requirement in the SR Amendment for all response personnel to receive initial classroom training in helicopter sling loading operations and a requirement for annual practical training. Other training was added to reflect new commercial driving training requirements based on requirements for compliance with other government agencies. The Department approved the current TAPS Pipeline Cplan, including the response training program, in November 2001. Based on its review of the SR Amendment, the Department does not find a compelling reason to require APSC to overhaul their entire response training program. Nonetheless, we acknowledge APSC management's commitment to fund an on-going training project under the leadership of a SR Training Project Manager.<sup>9</sup> As the Strategic Reconfiguration Project is implemented, APSC will be required to maintain training levels and ensure that all response personnel are trained as described in Section 2.8.9 of the Cplan SR Amendment.

Another commentor recommended that ADEC require APSC to develop a program for training community-based responders along the pipeline route. The Department does not have the authority to require APSC to hire and train additional responders, either as employees or as a community-based contractor pool, beyond what is required for control, containment and cleanup of an RPS volume spill or to protect environmentally sensitive areas or areas of public concern. The Department does not find compelling evidence in the SR Amendment that the current and future proposed available personnel will be inadequate for the tasks required by statute and regulation. As described above in Issue Number 2, the Department will utilize both industry and government-initiated oil spill exercises to validate the oil spill scenarios, including the SR RPS scenarios, as part of on-going validation and oversight of spill response planning for the TAPS Pipeline.

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<sup>9</sup> APSC Government Letter No. 311 to ADEC, Table: 18 OSCP DPO Issues, DPO No. 1, December 8, 2004

## **Issue No. 5: Best Available Technology**

### **Statement of Issue**

Does the SR Amendment propose changes to required Best Available Technology (BAT) use?  
Are proper BAT analyses included in the TAPS Cplan?

### **Findings**

The SR Amendment does not propose changes to Section 4, Best Available Technology, of the TAPS Pipeline Cplan. Likewise, changes to the prevention technologies currently approved as BAT are not proposed in Section 3, Prevention Plan. Therefore, the Department finds that APSC's SR Project does not alter the technologies approved as BAT on November 29, 2001 for the TAPS Pipeline.

### **Regulatory Authority**

Best Available Technology (BAT) regulations are extensive. The BAT regulations applicable to the TAPS Pipeline BAT Analysis in the plan are provided below.

18 AAC 75.425(e)(4) Best Available Technology Review lists the required contents for a plan BAT Review:

....the plan must provide for the use of best available technology consistent with the applicable criteria in 18 AAC 75.445(k). In addition, the plan must:

- (A) identify technologies applicable to the applicant's operation that are not subject to response planning or performance standards specified in 18 AAC 75.445(k)(1) and (2); these technologies include, at a minimum:
  - (i) for all contingency plans: communications described under 18 AAC 75.425(e)(1)(D); source control procedures to stop the discharge at its source and prevent its further spread described under 18 AAC 75.425(e)(1)(F)(i); trajectory analyses and forecasts described under 18 AAC 75.425(e)(1)(F)(iv); and wildlife capture, treatment, and release programs described under 18 AAC 75.425(e)(1)(F)(xi);
  - (ii) for a terminal, crude oil transmission pipeline, or an exploration and production contingency plan: cathodic protection or another approved corrosion control system if required by 18 AAC 75.065(h)(3); a leak detection system for each tank if required by 18 AAC 75.065(h)(4); any other prevention or control system approved by the department under 18 AAC 75.065(i)(1)(D); a means of immediately determining the liquid level of bulk storage tanks as specified in 18 AAC 75.065(j)(3) and (4); maintenance practices for buried steel piping containing oil as required by 18 AAC 75.080(b)(1)(A); and corrosion surveys required by 18 AAC 75.080(b)(2)(A);....

- (B) for each applicable technology under (A) of this paragraph, identify all available technologies and include a written analysis of each technology, using the applicable criteria in 18 AAC 75.445(k)(3); and
- (C) include a written justification that the technology proposed to be used is the best available for the applicant's operation.

18 AAC 75.445(k) Best Available Technology Review establishes the review criteria for approving a plan's BAT analysis:

For purposes of 18 AAC 75.425(e)(4), the department will review a plan and make a best available technology determination using the following criteria, as applicable:

- (1) technology used for oil discharge containment, storage, transfer, and cleanup to satisfy a response planning standard in 18 AAC 75.430 – 18 AAC 75.442 will be considered best available technology if the technology of the applicant's oil discharge response system as a whole is appropriate and reliable for the intended use as well as the magnitude of the applicable response planning standard;
- (2) technology that complies with the performance standards of 18 AAC 75.005 – 18 AAC 75.080 and that is not subject to a best available technology review under 18 AAC 75.425(e)(4)(A), will be considered best available technology;
- (3) technology identified under 18 AAC 75.425(e)(4)(A) will be evaluated using the following criteria, if applicable:
  - (A) whether each technology is the best in use in other similar situations and is available for use by the applicant;
  - (B) whether each technology is transferable to the applicant's operation;
  - (C) whether there is a reasonable expectation each technology will provide increased spill prevention or other environmental benefits;
  - (D) the cost to the applicant of achieving best available technology, including consideration of that cost relative to the remaining years of service of the technology in use by the applicant;
  - (E) the age and condition of the technology in use by the applicant;
  - (F) whether each technology is compatible with existing operations and technologies in use by the applicant;
  - (G) the practical feasibility of each technology in terms of engineering and other operational aspects; and
  - (H) whether other environmental impacts of each technology, such as air, land, water pollution, and energy requirements, offset any anticipated environmental benefits.
- (I) If the department's determination under (k) of this section is that a technology proposed for use by the applicant is not the best available technology, the department will provide a written finding explaining its decision.

### **Response to Comments and Basis for Decision**

The Department received comments requesting reconsideration of approval of technologies accepted as meeting BAT requirements in the November 2001 TAPS Pipeline Cplan. One commentor proposed further analysis of corrosion monitoring technologies, improved source control technologies and improved leak detection technologies be considered as part of the SR Amendment. A second commentor suggested that BAT determinations for source control and spill detection and tracking technologies were inadequate in the current Cplan and in the SR Amendment.

During its review of the SR Amendment, the Department considered whether any of the required BAT systems approved in the current Pipeline Cplan would be impacted by the SR Project. There were no proposed changes to the technologies in either Section 3 of the Cplan, its Prevention Plan, nor in Section 4 of the Cplan where BAT analyses are provided for certain systems. Because no changes are proposed for BAT technologies, the Department does not agree that the SR revisions are sufficient to required review of currently available technology prior to the TAPS Pipeline Cplan renewal in 2006.

However, if in the course of finalizing the SR Project design, APSC proposes any changes to any of the systems in Part 4 of the Cplan that are currently approved as BAT, the Department will require plan revisions and updated BAT analyses.

### **OTHER COMMENTS RECEIVED**

Following are brief discussions of some of the substantive comments received that are not directly related to the SR Amendment. However, they may be related to on-going compliance or include recommendations for future improvements to TAPS Pipeline oil spill prevention and response planning. Issues identified by the Department as compliance issues will be addressed as part of our on-going compliance oversight and enforcement activities. Other comments received reflected disagreement with the November 29, 2001 approval of the current TAPS Pipeline Cplan. The Department's approval decision on the current Cplan is not open for review at this time.

### **Public Process for Reviewing the TAPS Pipeline Strategic Reconfiguration Amendment**

The Department received many comments that expressed dissatisfaction with the amount of time allowed for public stakeholders to review the proposed amendment and its subsequent revisions. Likewise, the presentation of the amendment has been criticized. The Strategic Reconfiguration Amendment was a particularly large and substantive amendment that reflected changes in many aspects of oil spill prevention and response operations along the TAPS Pipeline. The Department recognizes the high degree of interest and effort put forth by many public stakeholders to develop substantive and detailed comments on the proposed amendment. These comments are highly valued by the Department and have assisted Department staff in identifying key issues and making approval decisions.

While recognizing that the amendment was extremely large, the Department carefully followed

the procedures and timelines outlined in 18 AAC 75.455. The only exception to the timeline required by the regulations was to extend the final comment period by twenty-one (21) days rather than eighteen (18) to account for the Thanksgiving holiday. The Department worked with APSC during all phases of the review to ensure that public review documents were available at regional libraries. In many cases, Department or JPO employees personally verified hard copies and CDs of the documents were present on the first day of the review periods. Additionally, APSC placed the amendment and RFAI responses on their website, which facilitated public access. While challenging for everyone involved, the Department is satisfied that the public review period was conducted in accordance with statutory and regulatory guidelines.

The Department wishes to acknowledge the Joint Pipeline Office for hosting a facilitated Strategic Reconfiguration Workshop to which public stakeholders who had initially commented on the amendment were invited to discuss their concerns with APSC management and operations staff as well as regulators. Based on comments provided to the Department, the Workshop was informative and a productive way to facilitate information exchange between some public stakeholders and APSC.

#### **MP 400 Lessons Learned and Cplan Recommendations**

The Department received several comments regarding incorporation of lessons learned from the MP 400 bullet hole oil discharge that occurred in October of 2001. The comments included reservations about proceeding with any changes to the TAPS Pipeline Cplan prior to full incorporation of lessons learned from MP400. Recommendations for Cplan modifications and research into additional spill prevention and response measures have been outlined in a Joint After Action Report for the TAPS Bullet Hole Response dated February 8, 2002. The Department received the first amendment based on work done in response to the Joint After Action Report in June 2003 and initiated a public comment period. The review of that Cplan amendment has not been completed, and further Cplan amendments are expected as APSC makes progress on implementing the recommendations.

The Department does not view MP 400 recommendations as directly linked to or dependent on the SR Amendment. Regardless of whether APSC continues to pursue the SR Project, the Department will continue to work with APSC to ensure on-going implementation of MP 400 recommendations, and the Department will continue to review MP 400 Cplan amendments according to procedures in 18 AAC 75.455.

#### **Design Basis for TAPS Pipeline**

Comments were also received stating that the Department should require APSC to return the TAPS Pipeline to a condition consistent with the original design basis. Specific comments on where the Pipeline is not maintained to the appropriate design basis standards were not provided. The Department does not have authority over the design basis of the Pipeline and defers to the agencies of the JPO for their determination of whether or not it meets the appropriate design standards.

### **Cold Restart**

The Department received a comment regarding potential increased risk due to lower oil temperatures and subsequent risk of valve freeze-up and plugging for potential cold restart related oil spills. The APSC SR Project Design Team is addressing cold restart issues with the JPO as part of the JPO's "Notice to Proceed" process. The Department does not have information to suggest changed risk associated with cold restart or decreased oil temperature under SR. However, the Risk Analysis update described in Issue Number 1 should include consideration of all potential risks under SR, including whether the engineering design will change the risk of oil spills due to freeze-up or cold restart procedures. If additional risks are identified, APSC will be required to propose methods to reduce those risks.

### **Citizen Advisory Committee for the Pipeline**

One commentor recommended that a Citizens' Advisory Committee be formed for the Pipeline in light of the significant changes that are proposed in the SR Amendment. The Department does not have the authority to require or sanction the creation of such a committee. The Department acknowledges the underlying request for stakeholder involvement in major decisions. In part, this goal can be accomplished through participation in public review processes. The Department also encourages APSC to take advantage of local knowledge of residents along the pipeline corridor and to actively develop an open communication forum between the company and the public.